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# PROGRESS TOWARDS PICOMETER ACCURACY LASER METROLOGY FOR THE SPACE INTERFEROMETRY MISSION

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The Space Interferometry Mission, scheduled for launch in 2008, is an optical stellar interferometer with a 10 meter baseline capable of micro-arcsecond accuracy astrometry. A mission-enabling technology development program is underway at JPL, including the design and test of heterodyne interferometer metrology gauges to monitor the separation of optical components of the stellar interferometer. The gauges are required to have a resolution of 10 picometers and to track the motion of mirrors over several meters. We report laboratory progress in meeting these goals.